

IN THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1-8. (Canceled)

9. (Previously presented) The device of claim 16 wherein said gas is an inert gas.

10. (Original) The device of claim 9 wherein said gas is selected from the group consisting of CO₂ and N₂.

11. (Canceled)

12. (Currently amended) A cap for a vascular catheter lumen comprising:
a cap body with a first end and a second end for connection to said catheter lumen,
said cap body defining three distinct and separate regions comprising;
a first region including an elastomeric plug located at the first end of said cap body,
said plug being cylinder shaped;
a second region including a fluid storage chamber located adjacent to said elastomeric
plug in said cap body; and
a third region including a fluid permeable filter and a through hole located at said
second end of said cap body and adjacent to said fluid storage chamber,
wherein said first region is at said first end of said cap, said second region is located
in a middle region of said cap and is separate and distinct from said first and third regions and said

third region is at said second end of said cap,

wherein said fluid storage chamber is filled with a fluid, said elastomeric plug prevents the fluid from exiting said cap through first end, and said fluid is allowed to exit said second end of said cap through said filter and through hole and into said catheter lumen at a rate regulated by said through hole so as to keep said lumen open.

13. (Original) The cap of said claim 12 further comprising a port located at the first end of said cap body and located in said plug for filling said fluid into said fluid storage chamber, wherein said elastomeric plug seals itself after introduction of said fluid to prevent said fluid from exiting said first end of said cap.

14. (Original) The cap of claim 12 wherein said through hole is located within a male luer lock.

15. (Original) The cap of claim 14 further comprising a female luer lock, wherein said female luer lock and said male luer lock combine to prevent fluid from exiting said second end of said cap when said cap is not in use.

16. (Original) The cap of claim 12 wherein said fluid is a gas.

17. (Withdrawn) A device for maintaining patency of a vascular catheter lumen comprising:

a body portion defining a gas chamber;

an elastomeric member in communication with the gas chamber;
a liquid chamber with a liquid tight plunger slidably disposed therein; and
an outlet from said liquid chamber adapted to be placed in communication with a catheter lumen,

wherein the pressure of gas in the gas chamber is applicable against the plunger to force liquid from the liquid chamber through the outlet.

18. (Withdrawn) The device of claim 17, wherein said device is divided into three regions, a first region for receiving said elastomeric member, a second region being the gas chamber, and a third region defining said liquid chamber and containing said plunger.

19. (Withdrawn) The device of said claim 17 further comprising a self-sealing port located in the elastomeric member for allowing the introduction of gas into said gas chamber and preventing gas from exiting therefrom.

20. (Withdrawn) The device of claim 17 further comprising a male luer lock for attachment to a vascular catheter, with a through hole therein sized to regulate the rate in which the liquid leaves said device and enters a catheter lumen.

21. (Withdrawn) The device of claim 17 wherein said gas is an inert gas.

22. (Withdrawn) The device of claim 21 wherein said gas is selected from the group consisting of CO₂ and N₂.

23. (Withdrawn) The device of claim 17 wherein said liquid is biocompatible.

24. (Withdrawn) The device of claim 23 wherein said liquid is selected from the group consisting of heparin, saline, sterile water, distilled water, and a mixture of two or more of these liquids.

25. (Previously presented) The device of claim 12 wherein said fluid is a liquid.

26. (Previously presented). The device of claim 25 wherein said liquid is an incompressible liquid.

27. (Previously presented) The device of claim 26 wherein said fluid storage chamber has walls which are elastomeric.

28. (Previously presented) The device of claim 12 wherein said fluid chamber is a separate member inserted in said cap body.